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Language anxiety in Chinese dialects and Putonghua among college students in mainland China: The effects of sociobiographical and linguistic variables[1]

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ABSTRACT

This paper examined language anxiety (LA) in Chinese dialects and Putonghua among college students in mainland China and explored the links between their LA in the first language and a range of sociobiographical variables (i.e. gender and geographical background) as well as linguistic variables (i.e. mother tongue, age of onset of acquisition, context of learning, self-perceived oral proficiency, and frequency of use). Participants were 778 Beijing university students who speak Chinese dialects and Putonghua. Statistical analyses revealed that participants reported significantly higher levels of LA in dialects than in Putonghua across a variety of situations. Geographical background and gender had scattered effects on LA in Putonghua and in dialects. Early bilinguals whose mother tongue were both a dialect and Putonghua reported the least LA in both. Later age of onset and acquisition of Putonghua in an instructed context were linked to increased LA in Putonghua. The negative relationships between self-perceived oral proficiency, frequency of use and LA were stronger in Putonghua than in dialects. The higher levels of LA in dialects combined with their language practices in dialects suggest a relatively lower confidence in the use of dialects among in this group of highly educated young Chinese adults.

Keywords: Language anxiety; Chinese dialects; Putonghua; college students; mainland China

Introduction

Language anxiety (LA) is an important sociopsychological dimension in language

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learning and language use. To date, most language anxiety research has focused on foreign/second language learning especially in foreign language classroom contexts (MacIntyre 2017; Dewaele 2017). Only a few studies have addressed anxiety in users' first language outside the classroom context (Dewaele 2013; Dewaele, Petrides, and Furnham 2008; Garcia de Blakeley, Ford, and Casey 2017; Sevinç 2017; Sevinç and Backus 2017; Sevinç and Dewaele 2018). However, language anxiety or 'communicative anxiety' (MacIntyre and Gardner 1989) can occur in any language of a monolingual or multilingual user. Unequal power relationships between languages/language varieties, self-perceived low proficiency, trouble with meeting the standard of national language, the pressure they feel and issues of identity and belonging are among the linguistic and socioemotional causes of language anxiety (Dong 2010; Sevinç and Backus 2017).

Mainland China, often viewed as a homogenous monolith, is a diverse and heterogeneous society ethnically, linguistically, and culturally. Putonghua (Mandarin Chinese) was adopted as the official and standard language by Chinese government (Guo 2004). Meanwhile, over thousands of Chinese dialects are used by *Han* Chinese people in informal and life domains. The clear division of Putonghua as high function variety and Chinese dialects as low function variety was stated clearly in official Chinese language policy (Guo 2004). However, the unequal social status, demographic and institutional support given to Putonghua and Chinese dialects had caused concerns over the vitality of Chinese dialects among people especially in prestigious dialect-speaking regions (Dong 2010; Gao 2012; Liang 2015; Shen 2016). These concerns might be reflected in language anxiety in people's language practice. Language anxiety in Putonghua or Chinese dialects is a neglected topic in the fields of sociolinguistics and applied linguistics studies in mainland China.

The purpose of the present study, therefore, is to investigate LA in native language varieties (Putonghua and Chinese dialects) among college students in mainland China. It also explores the relationship between participants' LA in Putonghua and Chinese dialects and a range of socio-biographical (geographical backgrounds and gender) and linguistic profile variables (mother tongue, context of acquisition, age of onset of acquisition, self-perceived oral proficiency, and frequency of use). The article starts with a review of LA research in different contexts. This is followed by a brief description of the sociolinguistic situation of Putonghua and Chinese dialects in mainland China after which the results of the statistical analyses will be presented. Finally, the findings and implications will be presented.

Language anxiety research in different contexts

LA initially refers to the subjective feeling of tension, apprehension, nervousness, and worry associated with the use or learning of a language (Horwitz 2001). MacIntyre and Gardner (1989) found that communicative anxiety in first language (L1) had some effects on foreign language anxiety (FLA) in their exploratory study of the relations between LA and other anxieties in English as a L1 and French as an L2. MacIntyre and

Gardner (1991) suggested that FLA is part of a more general communicative anxiety. Considering the interrelationships between types of LA, Dewaele (2017) proposed a nested design "with Communicative Anxiety as the outer ring, with gradually smaller inner rings starting with Language Anxiety, Foreign Language Anxiety, Foreign Language Classroom Anxiety, and the anxieties linked to specific classroom activities such as speaking, listening, reading, and writing" (439). LA not only occurs in an L2, but also occur in the L1 of second and third generation immigrants (Sevinç and Dewaele 2018).

Most LA research focused on foreign language learners' anxiety in classrooms (Horwitz, Horwitz and Cope 1986; Horwitz 2001; MacIntyre 2017). Only a few studies have examined L1 LA in contexts outside classroom (Pappamihiel 2001; Sevinç and Dewaele 2018; Woodrow 2006). Dewaele (2007) investigated the levels of LA in the L1, L2, L3 and L4 of 106 adult multilingual language users. He found that LA levels were lowest in the L1 and increased gradually from the L2 to L3. A series of sociobiographical variables (e.g. gender, age, number of languages known) had no effect on multilinguals' L1 anxiety but were linked to their L2, L3 and L4. Dewaele, Petrides, and Furnham (2008) further examined 464 mature multilinguals' LA in L1 and foreign languages across five different situations. They found that multilinguals who usually communicate in the L1 experienced much lower LA in their L1 than in their other languages. However, L1 anxiety levels may rise if other languages are used much more frequently.

Some recent studies distinguished heritage LA and majority LA among immigrants. Sevinç and Dewaele (2018) examined LA in Turkish and Dutch among Turkish immigrants across three generations in the Netherlands. They found that the first and second generation experienced more majority LA in Dutch because they sounded foreign while the third generation felt at ease in Dutch but experienced severe heritage LA in Turkish, fearing mocking comments of Turks during holidays in Turkey. Sevinç and Backus (2017) further investigated the linguistic and socioemotional causes of heritage LA and majority LA among these Turkish immigrants through semi-structured interviews. They found that linguistic and social inequality and unrealistic expectations of monolingual or target-like language use are closely linked to both types of LA. LA either in heritage language or majority language was part of a larger psychological challenge inherent in the immigrant experience, which intertwined with immigrants' identity and perceptions both in the ethnic and mainstream community. Xiao and Wong (2014) reported that heritage LA experienced by Chinese heritage language learners in the US were linked to their heritage language identity. Garcia de Blakeley, Ford and Casey (2017) found that the Latin America immigrants in Australia reported higher LA in English (L2) than Spanish (L1).

Since LA is a highly complex constellation of interacting variables, levels of LA/FLA fluctuate both in the very short term (minutes) and in the long term (years) and seem to be associated with various situational, sociobiographical and linguistic variables (Dewaele 2007; Dewaele, 2013). Among the sociobiographical variables such as age, gender and educational level has been found to be related to LA. Donovan and

MacIntyre (2005) and Dewaele (2007) found that younger participants tended to report lower FLA than older ones. However, Arnaiz and Guillén (2012) found that older adult multilinguals reported less FLA than younger adults in their different languages. Also, in a survey involving more than 1700 multilinguals ranging in age from 11 to 75, Dewaele and MacIntyre (2014) found that teenagers reported the highest levels of FLA and that this dropped among those in their twenties before stabilising among participants in their thirties. Similarly, the effect of gender on LA is not clear-cut. Arnaiz and Guillén (2012), Dewaele and MacIntyre (2014) and Dewaele, MacIntyre, Boudreau and Dewaele (2016) found that the female participants reported slightly higher FLA than their male counterparts. In other studies, females reported lower level of FLA (MacIntyre et al., 2002). Some studies found marginal gender differences (Dewaele 2013) or limited differences (Donovan and MacIntyre 2005; Sevinç and Dewaele 2018) in FLA among participants. Educational levels were found to be unrelated to FLA in some studies (Dewaele, Petrides, and Furnham 2008; Garcia de Blakeley, Ford, and Casey 2017), but were related to participants' LA in other studies (Sevinç and Dewaele 2018). Furthermore, Yan and Horwitz (2008) found that Chinese college students' geographical background was related to their FLA. Participants from economically developed areas reported less FLA than students from rural areas.

The language learning profile and language practice variables were also found to be related to LA/FLA in previous studies (Dewaele 2013; Dewaele, Petrides, Furnham 2008). Self-perceived language proficiency is often the strongest predictor of LA, which is often negatively correlated with LA (Dewaele and Al-Saraj 2015; Sevinç and Dewaele 2018). Frequency of language use is often negatively related with one's FLA (Liu 2006; Dewaele 2013; Thompson and Lee 2014). Age of onset of acquisition (AoA) has also been linked to LA. Dewaele (2013) found that participants who had started learning a language in early childhood reported lower levels of LA. Yet, the relationship was not linear. Context of acquisition, has also been linked to LA, with an instructed context being linked to more LA than mixed or naturalistic contexts (Dewaele 2013). However, Sevinç and Dewaele (2018) found that language background variables had little effect on immigrant LA in certain contexts (i.e. within family).

In sum, the great majority of LA research focused on language anxiety of second language or foreign language learners or heritage language anxiety of immigrants. So far, very few studies examined LA in native language, or in native varieties and dialects of the same language, although the research on communication anxiety stemmed from L1 LA. Such research is important as people might experience various degrees of LA in their daily use of native language varieties and dialects depending on their social prestige and context.

Sociolinguistic situation of Putonghua and Chinese dialects in mainland China

The language situation of mainland China is heterogeneous and complex. In addition to the national language, *Putonghua* (literally, "common speech") in mainland China, it

has been estimated that over 2000 more or less distinct dialects and subdialects are spoken in different regions at the county and municipal levels (Li 2006). The diversity of *Han* Chinese dialects fall into seven main dialect groups: Mandarin of spoken Chinese (spoken in northern, northwestern and southwestern parts of China) on which Putonghua is based, Wu (spoken in Shanghai and the provinces Jiangsu and Zhejiang), Min (spoken mainly in Fujian province), Yue or Cantonese (spoken mainly in the provinces of Guangdong and Guangxi), Xiang (spoken in Hunan province), Gan (spoken in Jiangxi province), and *Kejia* (mainly found in small enclaves in different provinces in southern China, notably Guangdong, Guangxi, Fujian and Sichuan) (Chen 1999). These dialects and their subdialects are used as a regional lingua franca among people who share the same dialect. Mainland China is a vast and multilingual society which is broadly characterized as diglossia with increasing (dialect) bilingualism (Li 2006).

Although Chinese dialects generally share the same written system as Mandarin Chinese (Putonghua), scholars agree that Chinese dialects are more like discrete languages than dialects of the same language (Erbaugh 1995; Groves 2010; Zhou 2001). They are not related in the same way as are their English counterparts (Li 2006). In the western linguistic tradition, discrete dialect varieties of a language are mutually intelligible. However, the regional dialects of Chinese are sometimes totally unintelligible to each other, such as Min and Yue. That is why it is difficult for people in dialect regions to learn Putonghua, especially in some regions where the regional dialects are linguistically distinct from Putonghua (Li 2006). Groves (2010) argued that the scope of *fangyan* (Chinese dialects) is more revealing of how spoken Chinese varieties are understood in China than the term 'dialect'. *Fangyan* not only refers to mutually intelligible varieties but also includes mutually unintelligible varieties in China. In the present study, the term 'Chinese dialects' will be used to refer to *fangyan* of Chinese.

According to official language policy in China, the government aims to gradually expand Putonghua's formal domains of use and progressively narrow the use of dialects to local, informal communicative functions (Guo 2004). However, the uneven allocation of domains of language use and unequal institutional support between Putonghua and regional dialects has caused some concerns about the language vitality and loss of Chinese dialects in some regions (Cai and Eisenstein Ebsworth 2017; Edwards 1992; Giles, Rosenthal, and Young 1985). Gao (2012) reported an inquiry into Chinese netizens' online discussions related to the 'Protecting Cantonese Movement' in Guangzhou, Guangdong Province. These netizens argued for maintaining Cantonese as a regional lingua franca because of its international prestige and the traditional heritage of Cantonese. In another study, Gao (2015) conducted an analysis of the state print media coverage of the 'dialect crisis' in mainland China (2002–2012) which revealed that individual citizens' desires and demands with regard to their regional dialects are acknowledged as legitimate by the state. However, the image presented by the state media differed somewhat from the opinions expressed on social media. Ng and Zhao

(2015) also stated that the practical allocation of regional Chinese dialects was still constrained because people had limited opportunities to use the dialects.

Liang (2015) conducted a linguistic ethnography study of people's language attitudes and identities in the multidialectal city of Guangzhou. He found that the current Putonghua/Cantonese diglossia was giving way to Putonghua monolingualism in Guangzhou, in which Cantonese and other regional dialects become endangered "minority languages". Putonghua monolingualism has become the norm in important domains in which language socialization happens, such as at school, in the mass media, and in public institutions. Regional Chinese dialects are not explicitly banned in these domains, but neither are they legitimate languages; thus they are implicitly banned. Shen (2016) described the social tensions surrounding the decline of Shanghai dialect and examined the dynamic interplay between language policy and local stakeholders in the process of dialect planning in the city of Shanghai. Under the promotion of Putonghua in Shanghai, the great majority of municipal population in Shanghai can speak Putonghua, but nearly 40% of schoolchildren cannot speak Shanghai dialect well according to a language survey conducted in 2011. Yu and Yang (2016) conducted a diachronic study of changes of dialect use and dialect proficiency among local youths in Shanghai over the past 15 years. They found that more youths in Shanghai acquired Putonghua rather than the Shanghai dialect as their mother tongue and used more Putonghua in both the domains of public and family as a dominant language. The youths who acquired Shanghai dialect as mother tongue and whose parents used Shanghai dialect often at home had a better mastery of the Shanghai dialect. The differences between young and old generations' dialect competence has caused worry about the survival and maintenance of the Shanghai dialect.

Although it is claimed that the promotion of Putonghua will not "wipe out dialects" (Guo 2004), it seems that China's official language policy has in reality restricted the use and acquisition of Chinese dialects especially among the young generation. We have seen some research discussing from a sociolinguistic perspective (Gao 2012; Liang 2015; Yu and Yang 2016) and a language policy and planning perspective (Shen 2016). However, so far no research has examined anxiety issues in people's language practice in mainland China under this sociolinguistic situation. College students as a young and an important social group whose current language practices might predict and influence the trend of language use and development of Chinese society in the future. Therefore, the present study aims to examine and compare LA in Putonghua and LA in Chinese dialects among college students from different regions of mainland China.

Research questions

The present study will address the following research questions:

(1) What are the LA levels in Chinese dialects and Putonghua among college students in mainland China?

(2) What are the effects of sociobiographical background variables (geographical background and gender) on LA in dialects and in Putonghua?
(3) What are the effects of linguistic variables (i.e., mother tongue, context of acquisition, AoA, self-perceived oral proficiency, and frequency of use of the language) on LA in dialects and in Putonghua?

Method

Participants

Participants of the present study were 778 first-year college students (341 males, 437 females) with an average age of 18.1 years old from a comprehensive university in Beijing who can speak both Putonghua and at least one type of Chinese dialects. They originated from different provinces and municipalities of mainland China geographically. For the convenience of classification, their geographical backgrounds or hometowns were divided into five groups based on the size of the place and its administrative ranks: Beijing, Shanghai, Guangzhou (henceforth BSG), provincial capital cities, cities at prefecture level, county-level cities, and villages and towns.[1] They were studying different subjects as their major, such as liberal arts and humanity (17%), social sciences (25%), economics and economics related (31%), law and politics (9%), maths and science (15%), and others (4%).

Based on the participants' information on the age and order of acquisition of their first language variety, a second-order variable 'mother tongue', i.e. the spoken Chinese variety which was acquired before age 3 in childhood at home, was established: a dialect, Putonghua, both a dialect and Putonghua simultaneously. The dialect backgrounds of participants in this study are enormously diverse including more than 181 types of Chinese dialect varieties except for two most used umbrella terms '*Difanghua*' (regional Chinese speech) and '*Fangyan*' (Chinese dialects). Thirty-two participants can speak a second variety of Chinese dialects.[2] All of the participants in this study studied English as a foreign language for six to ten years. Except English, some of the participants also learned a second foreign language such as Japanese (35 participants), French (15 participants), Korean (9 participants), German (8 participants), Russian (5 participants), Spanish (2 participants), Arabic (1 participant), and Italian (1 participant). The demographic and mother tongue background information of the participants is summarised in Table 1.

Table 1. Participants' demographic and mother tongue background information.

Variable	Category	Frequency	Percentage
Gender	Male	341	43.8%
	Female	437	56.2%
Geographical background	BSG	59	7.6%
	Provincial capital city	116	14.9%
	Prefecture-level city	252	32.4%
	County-level city	204	26.2%
	Village and town	120	15.4%
	Unknown	27	3.5%
Mother tongue	A dialect	332	42.7%
	Putonghua	51	5.3%
	Both a dialect and Putonghua	405	52.1%

Research instruments

Dewaele and Pavlenko's (2001-2003) *Bilingualism and Emotions Questionnaire* (BEQ) was adapted as the research instrument in this study. The questionnaire was originally developed in English. It was translated into Chinese and back-translated to English by two experienced Chinese-English bilingual English teachers. The final Chinese questionnaire consisted of three parts. The first part contained six questions relating to information of participants' gender, age, education level, and geographical background. The second part elicited information on languages known, age of onset of acquisition (AoA), context of acquisition, frequency of use of the language, and self-perceived oral proficiency in Putonghua and dialects[3]. Information on participants' linguistic practice and history-of-learning is summarised in Table 2.

The third part contained LA scales in Chinese dialects and Putonghua based on a 5-point Likert scale (1 = not at all anxious, 2 = a little anxious, 3 = quite anxious, 4 = very anxious, 5 = extremely anxious)[4]. Participants were asked to indicate how anxious they were when speaking a Chinese dialect or Putonghua in five different situations (i.e. with friends, with classmates, with strangers, on the phone, and in public). The internal consistency of these two scales was very satisfactory (Cronbach's alpha = .810, $n = 5$ for LA in dialects, and Cronbach's alpha = .852, $n = 5$ for LA in Putonghua). We also calculated a "total LA score", namely the sum of LA scores in either a dialect or Putonghua in five situations (total LA in dialects and Putonghua, lowest possible score 5; highest possible score 25).

Table 2. Distribution of participants according to their linguistic practice and history-of-learning (in %).

	Chinese dialects	Putonghua
Age of onset of acquisition		
0-2	95.4	59.6
3-5	2	26.1
6-10	2.1	13.7
11-13	0.4	0.6
14+	0.1	0
Context of acquisition		
Naturalistic context	88.4	21.1
Instructed context	0.4	25.6
Mixed context	11.2	53.3
Self-perceived oral proficiency		
Minimal	3.7	0.3
Low	5.4	0.3
Medium	12.6	8.3
High	15.9	23.2
Maximal	62.4	68
Frequency of use		
Never	0.8	0
Seldom	9.3	0.4
Occasionally	14.1	2.2
Frequently	46.4	39.6
All the time	29.3	57.8

Procedure

The paper-and-pencil questionnaire survey was conducted with the help of fifteen college teachers at one university in Beijing in December 2016. These teachers explained the purpose of the survey and how to fill in the questionnaire to their students in the classrooms. Participants filled in the questionnaires after class voluntarily and anonymously. They returned the finished questionnaires back to their teachers immediately or within one week. A total of 1400 copies were distributed, 1147 were returned (response rate of 82%) of which 1121 copies were valid. Thirty-six participants who speak minority languages as their L1 and 204 *Han* Chinese participants who reported not speaking any Chinese dialect but only Putonghua were excluded for the present study. Furthermore, 103 participants were list-wise deleted, which left us with 778 participants. Participants took about 20 minutes to complete the questionnaire.

Analysis

Kolmogorov-Smirnov tests revealed that the values for LA in dialects and Putonghua across all situations and total LA in dialects and Putonghua are not normally distributed (Kolmogorov-Smirnov *Z* values vary from 4.2 to 13.4 for LA in dialects [all significant at $p < .0001$] and they range from 10.7 to 14.5 for LA in Putonghua [all significant at $p < .0001$]. As a consequence, we have opted for non-parametric statistical techniques: Friedman's tests were used instead of repeated-measures ANOVA, Kruskal-Wallis one-way analyses of variance by ranks instead of ANOVAs, Mann-Whitney U test instead of a *t*-test, and Spearman's rho instead of Pearson's *r*.

Results

LA in dialects and Putonghua

Friedman's tests for related samples were conducted to investigate variation in levels of LA in dialects and Putonghua across the five situations. Results showed a highly significant effect of situation on LA in dialects and in Putonghua ($\chi^2(4) = 842$, $p < .0001$ for LA in dialects, $\chi^2(4) = 174$, $p < .0001$ for LA in Putonghua). Speaking dialects with friends was the least anxiety provoking situation, while speaking dialects in public triggered most anxiety. Similarly, speaking Putonghua with classmates were the least anxious situation and speaking Putonghua in public was the most anxious one (Table 3).

As illustrated in Table 3, a higher LA level in dialects than in Putonghua were reported across all the situations. Wilcoxon signed-rank tests revealed that levels for LA in dialects were significantly higher than those for LA in Putonghua ($Z = -4.51$, $r = 0.32$ for with friends; $Z = -11.25$, $r = 0.66$ for with classmates; $Z = -15.66$, $r = 0.74$ for with strangers; $Z = -10.15$, $r = 0.57$ for on phone; $Z = -15.54$, $r = 0.73$ for in public; all $p < .0001$). In general, the participants reported higher total scores of LA in dialects than those of LA in Putonghua ($Z = -15.95$, $p < .0001$, $r = 0.67$).

Table 3. Language anxiety in dialects and Putonghua.

Anxiety	With friends		With classmates		With strangers		On the phone		In public		Total score	
	M	SD	*M*	SD	*M*	SD	*M*	SD	*M*	SD	*M*	SD
LA in dialects	1.23	.55	1.44	.67	1.96	.94	1.53	.79	2.04	1.06	8.18	3.11
LA in Putonghua	1.12	.40	1.11	.36	1.26	.55	1.19	.49	1.30	0.65	5.98	1.99

Sociobiographical variables and LA in dialects and Putonghua

Geographical background

Kruskal-Wallis tests showed significant effects of geographical background on participants' LA in dialects and Putonghua only in four situations: when speaking a

dialect with friends ($\chi^2(4) = 17.80$, $p < .001$), on the phone ($\chi^2(4) = 15.46$, $p < .004$), in public ($\chi^2(4) = 11.47$, $p < .022$), and when speaking Putonghua with friends($\chi^2(4) = 10.86$, $p < .028$). Results also indicated significant effects of geographical background on the total level of LA in dialects ($\chi^2(4) = 11.32$, $p < .023$) and in Putonghua ($\chi^2(4) = 14.01$, $p < .007$) (see Table 4).

However, the mean levels of LA in dialects and LA in Putonghua did not increase linearly from participants who were from BSG to those from villages and towns according to the size and administrative ranks of their hometowns. Participants from BSG ($M = 7.59$, SD = 3.56) reported the lowest levels of LA in dialects, participants from county-level cities ($M = 7.86$, SD = 2.59) second lowest, those from capital cities of provinces ($M = 8.20$, SD = 3.69) third lowest and followed by participants from villages and towns ($M = 8.41$, SD = 2.91). Participants from prefecture-level cities ($M = 8.48$, SD = 3.21) reported highest levels in LA in dialects. However, participants from prefecture-level cities ($M = 5.80$, SD = 1.95) reported lowest levels in LA in Putonghua, participants from capital cities ($M = 5.94$, SD = 1.77) second lowest, those from BSG ($M = 6.033$, SD = 2.69) third lowest and those from county-level cities ($M = 6.034$, SD = 1.75) fourth lowest. Whereas, participants from villages and towns ($M = 6.25$, SD = 2.17) experienced the highest levels in LA in Putonghua (see Figure 1).

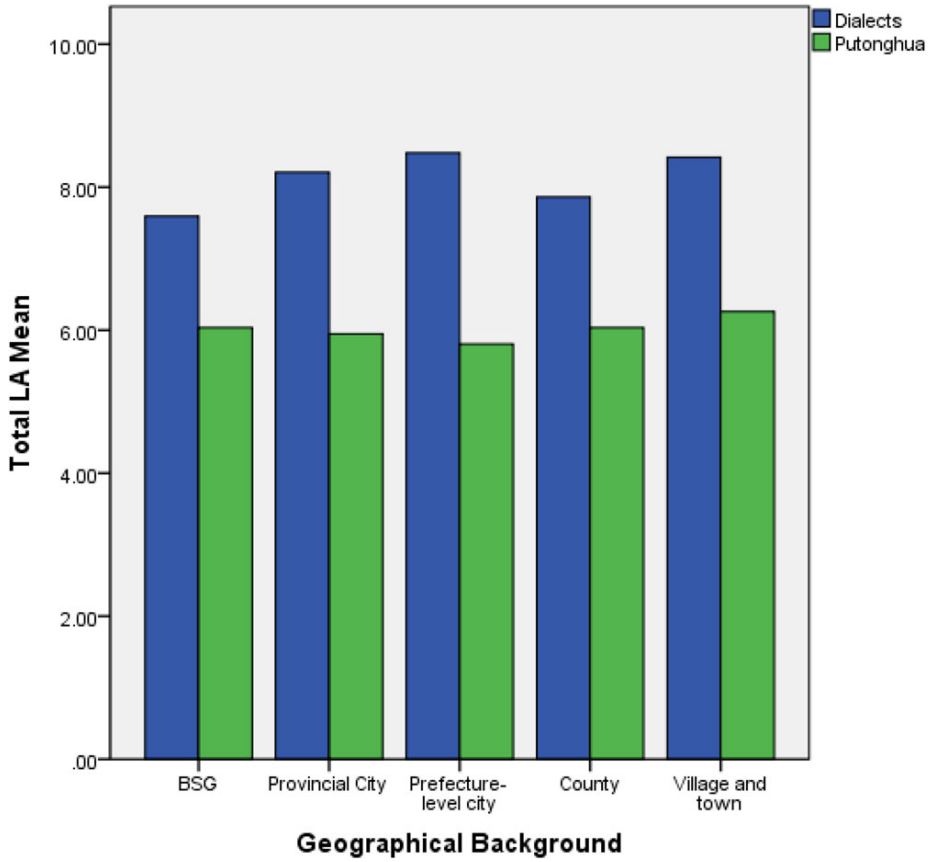

Figure 1. Language anxiety in dialects and Putonghua among different geographical background groups.

Gender

Mann-Whitney tests revealed significant gender differences in only three situations (Table 4). Males were significantly more anxious than females when speaking dialects with their classmates (Mann-Whitney $Z = -2.45$, $p < .014$, $r = .09$) and when speaking Putonghua with strangers (Mann-Whitney $Z = -2.33$, $p < .020$, $r = .08$) and on the phone (Mann-Whitney $Z = -2.23$, $p < .026$, $r = .08$). There was no gender difference in the total scores of LA in Putonghua and LA in dialects.

Table 4. The effects of geographical background and gender on language anxiety in dialects and Putonghua across situations.

Anxiety	Situation	Geographical background (Kruskal-Wallis) χ^2 (df = 4)	Gender (Mann-Whitney) Z
LA in dialects	With friends	17.80**	-1.26
	With classmates	1.17	-2.45*
	With strangers	8.68	-1.85
	On the phone	15.46**	-.68
	In public	11.47*	-.55
	Total LA in dialects	14.01**	-1.08
LA in Putonghua	With friends	10.86*	-.82
	With classmates	6.56	-.94
	With strangers	8.32	-2.33*
	On the phone	8.30	-2.23*
	In public	5.76	-.98
	Total LA in Putonghua	11.33*	-1.36

Note: *$p < .05$; **$p < .01$.

Linguistic variables and LA in dialects and Putonghua

Mother tongue

Kruskal-Wallis analyses showed a highly significant effect of mother tongue on participants' Total LA in dialects ($\chi^2(2) = 6.59$, $p < .037$) and Total LA in Putonghua ($\chi^2(2) = 16.10$, $p < .0001$). Mann-Whitney U tests showed that those participants whose mother tongue was Putonghua ($M = 9.34$, SD = 3.36) had significant higher LA in dialects than those whose mother tongue was a dialect ($M = 8.23$, SD = 3.13) (Mann-Whitney $Z = -2.16$, $p < .031$, $r = 0.08$) and those whose mother tongue was both Putonghua and a dialect ($M = 8.03$, SD = 3.04) (Mann-Whitney $Z = -2.50$, $p < .012$, $r = 0.09$). There was no significant difference between those whose mother tongue was a dialect and those whose mother tongue were both a dialect and Putonghua on LA in dialects (Mann-Whitney $Z = -.890$, $p = .374$, $r = 0.03$).

Similarly, three Mann-Whitney U tests showed that those whose mother tongue was Putonghua ($M = 5.90$, SD = 2.49) had marginally lower levels of LA in Putonghua than those whose mother tongue was a dialect ($M = 6.30$, SD = 2.31) (Mann-Whitney $Z = -1.95$, $p = .051$, $r = 0.07$). Those whose mother tongue was both Putonghua and a dialect ($M = 5.73$, SD = 1.58) had significantly lower LA in Putonghua than those whose mother tongue was a dialect only (Mann-Whitney $Z = -3.82$, $p < .0001$, $r = 0.14$). There were no significant differences between those whose mother tongue was Putonghua and those whose mother tongue were both Putonghua and a dialect (Mann-Whitney $Z = -.428$, $p = .669$, $r = 0.01$). The surprising finding is that the group of participants whose mother tongue were both a dialect and Putonghua reported the lowest levels of both LA in dialects and LA in Putonghua (Figure 2).

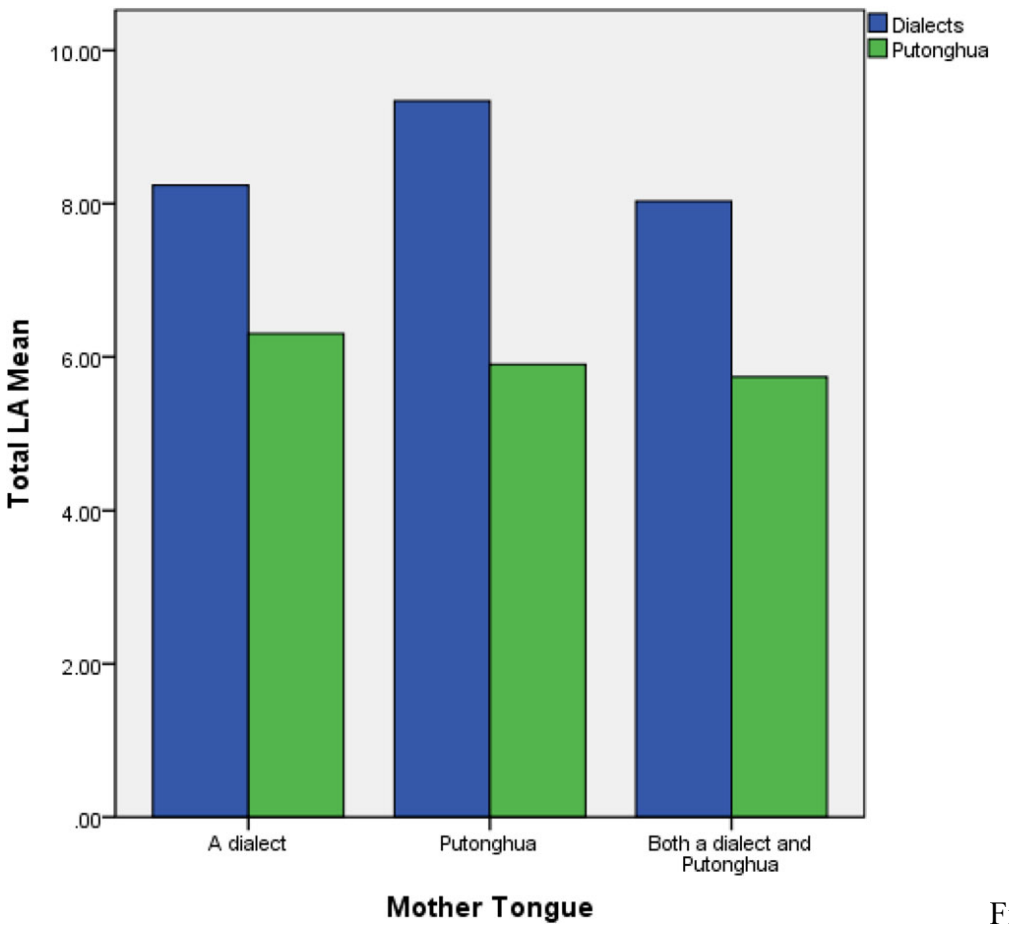

Figure 2.

Figure 2: Language anxiety in dialects and Putonghua among different mother tongue groups.

Context of acquisition

Kruskal-Wallis tests showed that context of acquisition has a highly significant effect on LA in Putonghua (χ^2 (2) = 12.14, $p < .002$), but no significant effect on LA in dialects (χ^2 (2) = 0.10, $p = .95$) (Table 5). Three separate Mann-Whitney U tests showed that participants who learned Putonghua in an instructed context ($M = 6.32$, SD = 2.23) had significantly higher levels of LA in Putonghua than those who acquired it in a naturalistic context ($M = 5.82$, SD = 1.88) (Mann-Whitney $Z = -3.02$, $p < .01$, $r = 0.15$) and in a mixed context ($M = 5.88$, SD = 1.89) (Mann-Whitney $Z = -2.96$, $p < .003$, $r = 0.12$). There was no significant difference in LA in Putonghua between those who learned it in a naturalistic or a mixed context (Mann-Whitney $Z = -.831$, $p = .41$, $r = 0.03$).

Table 5. The effects of mother tongue and context of acquisition on language anxiety in dialects and Putonghua (Kruskal-Wallis χ^2).

Anxiety	Mother tongue χ^2 (df = 2)	Context of acquisition χ^2 (df = 2)
LA in dialects	6.59*	0.10
LA in Putonghua	16.10***	12.14**

Note: *$p < .05$; **$p < .01$; ***$p < .001$

AoA, self-perceived oral proficiency, and frequency of language use

A significant and positive correlation was found between AoA of Putonghua and LA in Putonghua (*Rho* = .154, $p < .0001$, $r^2 = 2.4$). Participants who acquired or learned Putonghua at an older age experienced more LA in Putonghua. However, there was no significant correlation between AoA of dialects and LA in dialects (*Rho* = .058, p = 0.105).

A significant and moderate negative relationship (*Rho* = -.378, $p < .0001$, r^2 = 14.3) was found between one's self-perceived oral proficiency in Putonghua and LA in Putonghua and a relatively small negative correlation (*Rho* = -.209, $p < .0001$, $r^2 = 4.4$) between one's frequency of Putonghua use and LA in Putonghua (Plonsky and Oswald 2014). Smaller but significant relationships were found between self-perceived proficiency in dialects and LA in dialects (*Rho* = -.194, $p < .0001$, $r^2 = 3.8$) and between frequency of use of dialect and LA in dialects (*Rho* = -.159, $p < .0001$, $r^2 = 2.5$) (Table 6). The effect sizes of the correlations with these linguistic variables were slightly greater for LA in Putonghua than for LA in dialects.

Table 6. Spearman correlations between language anxiety and AoA, self-perceived oral proficiency, and frequency of language use.

	AoA	Self-perceived oral proficiency	Frequency of language use
LA in dialects	.058	-.194***	-.159***
LA in Putonghua	.154***	-.378***	-.209***

Note: AoA=age of onset of acquisition;

*$p < .05$; **$p < .01$; ***$p < .001$(all two-tailed tests)

Discussion

Our participants reported higher levels of LA in dialects than in Putonghua across a range of situations. For these college students, Putonghua is the dominant language variety in their daily life (see Table 2). Although the participants reported that they can speak at least one type of Chinese dialects, they were gradually deprived of the context and opportunities to practice their dialects as their education progressed. Moreover, Putonghua is omnipresent at their university in Beijing with very few opportunities to speak their dialects. The higher LA in dialects could be interpreted as a sign of impending attrition (Dewaele, Petrides, and Furnham 1998).

Geographical background was found to be linked to participants' LA in Putonghua and in dialects. The participants from BSG reported the lowest levels of LA in dialects. That might be linked to the fact that the dialects of these three metropolitan cities (Beijing dialect, Shanghai dialect, and Cantonese) are relatively high-prestige dialects in China which are used frequently in most domains of their life in these cities (Chen 1999; Gao 2012; Liang 2015; Zhou 2001). People in these dialect-speaking areas often feel that they have more prestige than other dialects speakers (Li 2006). Therefore, the participants from these three cities suffered the least LA in their regional dialects. Not surprisingly, participants from rural areas and county-level cities reported the highest levels of LA in Putonghua. This is because resources for language education in small cities and rural areas are much more limited compared to those in economically developed areas of China (Hu 2005; Paine and DeLany 2003). This is consistent with the findings of geographical background effects on Chinese college students' FLA (Yan and Horwitz 2008) that students from economically developed cities and regions reported less FLA than those from rural areas. Geographical background is thus a significant factor in explaining the differences not only in FLA but also in LA in Putonghua and dialects among college students.

No gender difference was found in the total scores of LA in Putonghua and in dialects but a significant difference emerged in three situations: males reported higher levels of LA when speaking a dialect with classmates; males reported higher levels of LA when speaking Putonghua with strangers and on the phone. This might be because female participants reported higher level of self-perceived oral proficiency in Putonghua than males (t = -4.02, df = 638, $p < .0001$). However, they reported a lower level of self-perceived oral proficiency in dialects than males (t = 2.09, df = 755, $p < .05$). Female Chinese students tended to show more positive attitudes towards overtly prestigious languages (e.g., English and Putonghua), while male students tended to use more vernacular or low-prestige forms (e.g., dialects) (Wang and Ladegaard 2008). These three communicative situations in Putonghua or dialects might be relatively more anxiety-provoking activities for the male students and require them to draw on more emotional resources (Dewaele, Petrides, and Furnham 2008).

Clear links also emerged between participants' linguistic profile variables and their LA in Putonghua, but the links between these variables and LA in dialects were

weaker. Firstly, participants' mother tongue background was shown to have a significant effect on both LA in Putonghua and LA in dialects. Participants whose mother tongue were both a dialect and Putonghua felt the least LA in both. Family language policy and practice is critical in determining the natural intergenerational acquisition and transmission of a language and/or language variety (Spolsky 2012). Those participants with both a dialect and Putonghua as their mother tongue might have had contact with both spoken varieties of Chinese since they were born and might feel more familiar with both. Their families might also provide consistent support in speaking both Putonghua and regional dialects in the family environment. Thus, they might feel more comfortable and less anxious when speaking either Putonghua or their dialect. Secondly, context of acquisition only had significant effects on LA in Putonghua but not on LA in dialects. Participants who learned Putonghua in an instructed context suffered the highest levels of LA in Putonghua while those who acquired Putonghua in a naturalistic context reported the lowest levels of LA in Putonghua. This confirms Dewaele's (2013) findings on the effects of context of acquisition on FLA. Foreign language learners who acquired the language only through formal instruction reported higher levels of FLA than those who acquired it in a mixed or naturalistic context. The group of participants who acquired Putonghua in a naturalistic context might be more confident to speak Putonghua across all situations. However, context of acquisition may be insufficient to explain the differences of their LA in dialects since the great majority of the participants acquired their dialects exclusively in a naturalistic context (see Table 2).

Similarly, AoA only had significant effects on LA in Putonghua but not on LA in dialects. Participants who learned Putonghua at an older age reported more LA. This is consistent with the findings about the effects of AoA on FLA in Dewaele (2013). The lack of effect of AoA on LA in dialects in the present study might be because the average AoA of dialects was too low to matter. More than 95% of participants acquired their dialects between the ages 0-2 (see Table 2). The effects of AoA on LA in dialects might also be neutralized by the fact that the participants no longer felt dominant in their dialects and spent most of their time in Putonghua-dominant schools and universities.

Self-perceived oral proficiency was found to be negatively linked to LA in Putonghua and LA in dialects. This is again a well-established pattern (Dewaele 2013; Dewaele and Al-Saraj 2015). Participants who perceived themselves as more proficient speakers of Putonghua or dialects suffered significantly less from LA in Putonghua or LA in dialects.

The links between frequency of use and both LA in Putonghua and LA in dialects were negative. This is again consistent with findings in previous research (Dewaele 2013; Sevinç 2017; Sevinç and Dewaele 2018), also because frequency of use and proficiency are positively correlated. However, the correlation between frequency of use of Putonghua and LA in Putonghua is stronger than that between frequency of use of dialects and LA in dialects, possibly because Putonghua is the more dominant spoken variety among the participants. As discussed previously, participants might

gradually be deprived of the opportunities to use their regional dialects when they left their hometowns and studied at a higher-level educational institution. They would use Putonghua as a lingua franca when they were not sharing the same dialect at schools and universities. Participants' levels of LA in different languages -including their mother tongue- might increase if they no longer felt dominant (Dewaele 2013). Therefore, the relationship between frequency of use and LA in dialects was weaker.

Finally, we are aware of the limitations of the present study. Firstly, the division of geographical backgrounds in terms of the size and administrative ranks of the places is not fine-grained. For example, people from places at different administrative levels in Guangdong province might have stronger connection to Cantonese than participants' connection to their dialects from Northern provinces where the dialects are close to Putonghua. Future studies might distinguish the differences of participants' LA in dialects and Putonghua based on their Chinese dialect regions. Secondly, this study only examined LA across five situations. Since the scales of language use and preferences in L1 are much more complex and dynamic than in foreign/second language, thus the communication situations of LA scale in native language in future research could be more diverse and specific, such as "when you speak Putonghua with your classmates from your hometown" and "when you speak the dialect with strangers who speak your dialect in your hometown". In addition, future research could try to involve participants from different age groups and socioeconomic groups to help us better understand the interactions between social and linguistic factors and people's LA in different Chinese varieties in mainland China.

Conclusion

The present study is the first large-scale study, to our knowledge, to investigate LA in dialects and Putonghua among young educated Chinese adults in mainland China. Participants reported significant higher levels of LA in dialects than LA in Putonghua across a range of situations. Geographical background and mother tongue had significant effects on both LA in Putonghua and LA in dialects. AoA and context of acquisition only had significant effects on LA in Putonghua but not on LA in dialects. The relationship between self-perceived oral proficiency, frequency of use and LA in Putonghua were stronger than the links between them and LA in dialects. The findings of this study suggest a relatively lower confidence in the use of dialects among this highly educated group of young Chinese adults.

Notes

(1) Twenty-seven participants did not provide the information about their geographical backgrounds.
(2) The levels of LA in dialects reported by these 32 participants probably referred to the first dialect they acquired or the one they used most frequently.

(3) Participants were required to self-rate their oral proficiency in Putonghua and Chinese dialects on a 5-point scale: minimal (1), low (2), medium (3), high (4), and high (5). They needed to make comparisons between their oral proficiency in Putonghua and their dialects, thus their self-perceived oral proficiency might be more reliable.
(4) Except the five choices of the 5-point Likert scale, "not applicable(N/A)" is also offered as a choice for participants to choose if they feel that the situation is not applicable for them. The participants who had situations with N/A was listwise deleted in the analysis.

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